

CUB SCOUT
ACTIVITY
SERIES™



World of Bugs



Inside

Spider's Tale • Amazing Facts • Puzzles • Stickers • And More!

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World of Bugs



Amazing Bugs



Bugs are the most successful creatures on the planet. There are more kinds of bugs on Earth than any other animals.

The word “bug” covers a huge range of creatures: insects, spiders, centipedes, and other creepy-crawlies. Just think, there are millions of bugs in just one acre of land.

Big eaters

Bugs are important because they eat all kinds of plant and animal matter. If we didn't have bugs, we would live in a world covered with dead plants and animals.

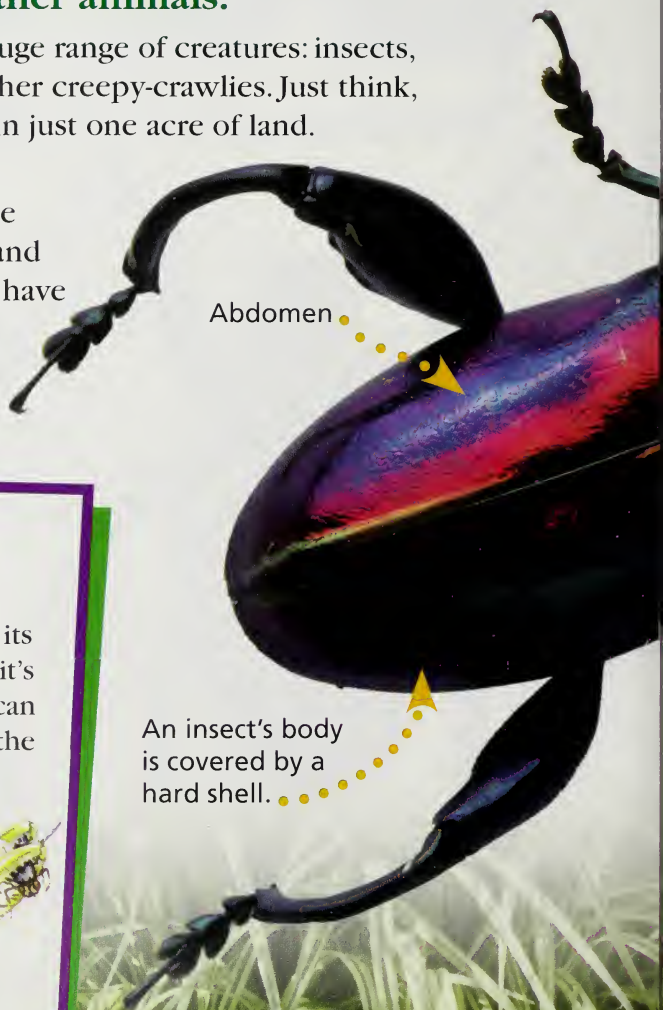
Did you know?

The praying mantis gets its name from the way it holds its front forelegs up as though it's praying. The female mantis can be quite aggressive toward the male, literally biting his head off.



Abdomen

An insect's body is covered by a hard shell.



Wings

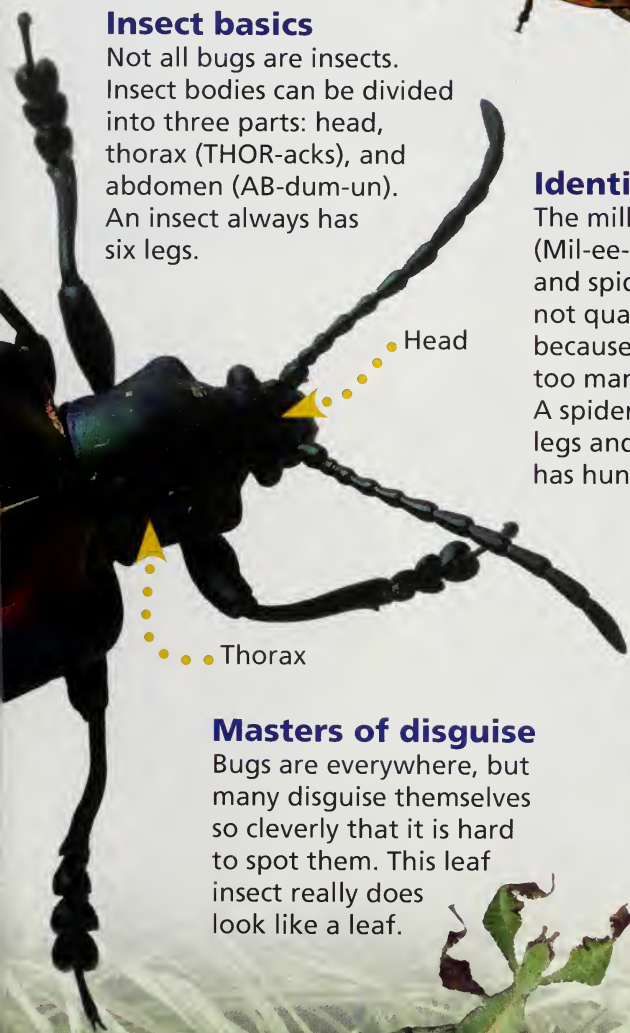
The ability to fly is one reason why bugs have been so successful over millions of years. They can fly thousands of miles to find fresh food or warmer weather.



Lady bugs have soft wings under hard wing cases.

Insect basics

Not all bugs are insects. Insect bodies can be divided into three parts: head, thorax (THOR-acks), and abdomen (AB-dum-un). An insect always has six legs.



Head

Thorax

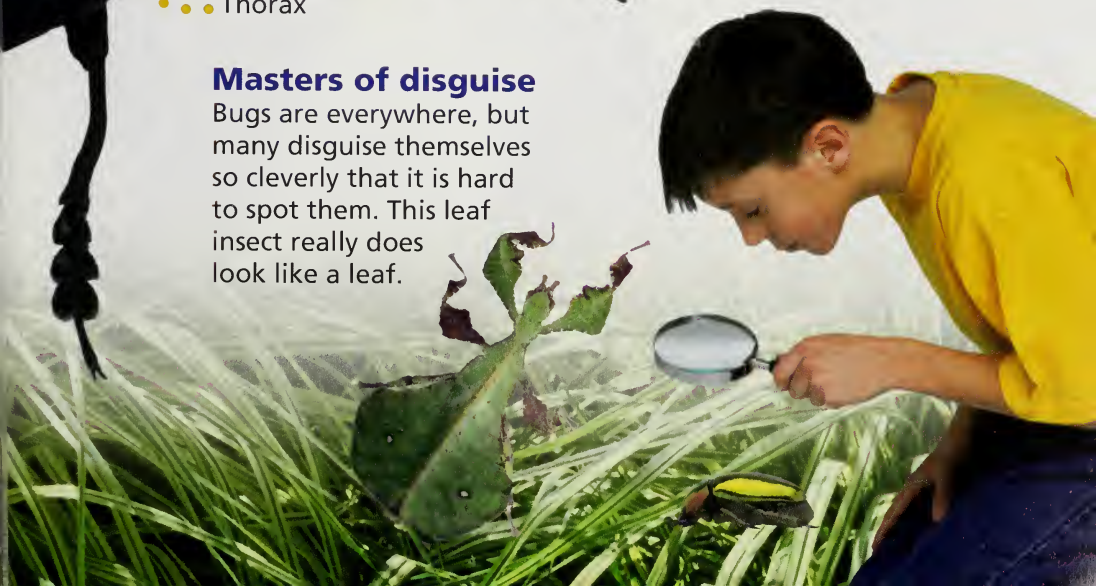
Identity parade

The millipede (Mil-ee-PEE-d) (right) and spider (below) do not qualify as insects because they have too many legs. A spider has eight legs and a millipede has hundreds.



Masters of disguise

Bugs are everywhere, but many disguise themselves so cleverly that it is hard to spot them. This leaf insect really does look like a leaf.





It's a Grub's Life

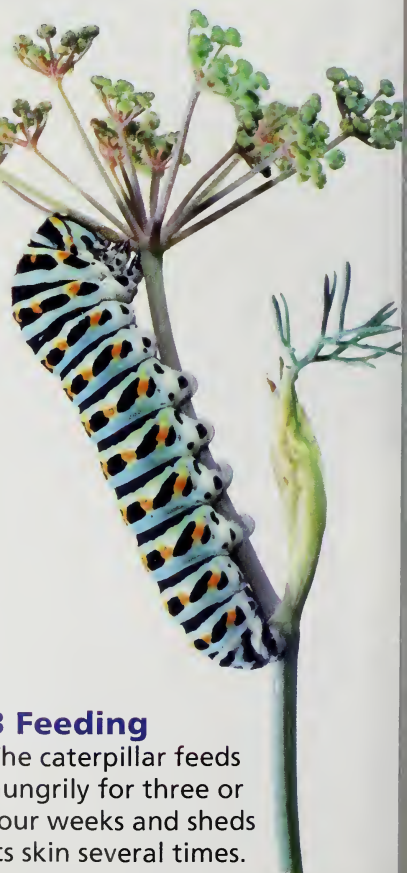
Many newly hatched bugs look like grubs—quite different from the adults they will become. The grubs, or caterpillars, have to go through several distinct stages before becoming adult insects. The process is amazing.

Life Cycle

All butterflies—and moths—begin life as small, hard-shelled eggs that are usually laid on plants. Each egg then hatches into a grub or caterpillar. When fully grown, the caterpillar spins a hard casing called a pupa (PYOO-pa). Within this pupa, the amazing process of metamorphosis (met-a-mor-FO-sis) takes place and the caterpillar eventually emerges as a beautiful butterfly.



Eggs are sticky and attach to the plant.



1 The Egg

Eggs are laid on the underside of a plant away from predators.

2 The Caterpillar

The tiny caterpillar emerges by chewing through the egg's shell.

3 Feeding

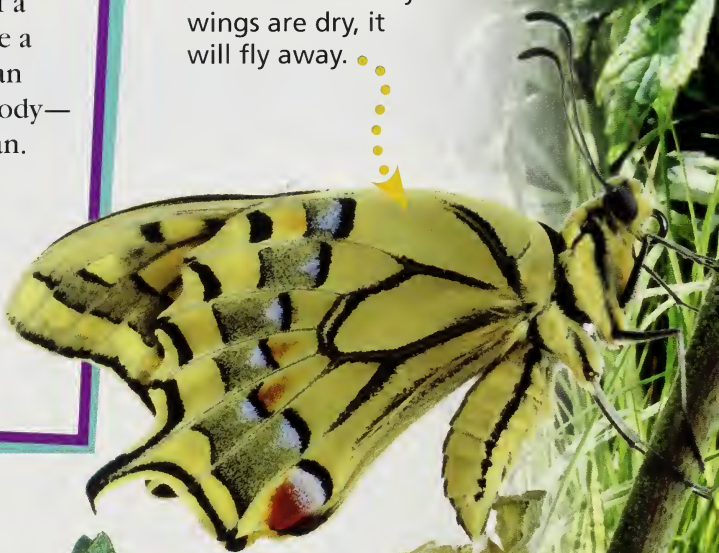
The caterpillar feeds hungrily for three or four weeks and sheds its skin several times.

Amazing Facts

In Mexico, the grub of a small moth lives inside a bean. It makes the bean jump by flipping its body—a real-life jumping bean.



Once the butterfly's wings are dry, it will fly away.



The pupa is shaped like a leaf.



4 Ready to change

The caterpillar finally attaches itself to a plant stem and begins to turn into a pupa.

5 The Pupa

Inside the hard pupa case, an amazing change takes place.

The Butterfly

Eventually, the pupa case splits open and the adult butterfly emerges.



Make a Butterfly Restaurant!



You will need

Over-ripe banana



3 oz unrefined dark brown sugar

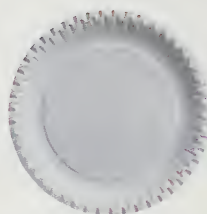


Wooden spoon



Fork

Pencil



Paper plate



String



Mixing bowl



8 fl oz water

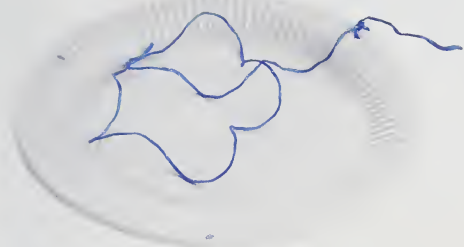


Saucepan



1 Peel the banana, break it into pieces, and put the pieces into the bowl. Use the fork to mash the banana into a paste.

2 Mix the banana paste, sugar, and water in the saucepan. With adult supervision, heat the mixture until it gets sticky. Turn off the heat and let the mixture cool.



3 Make three holes in the plate with the pencil. Tie a piece of string around the plate through each hole.

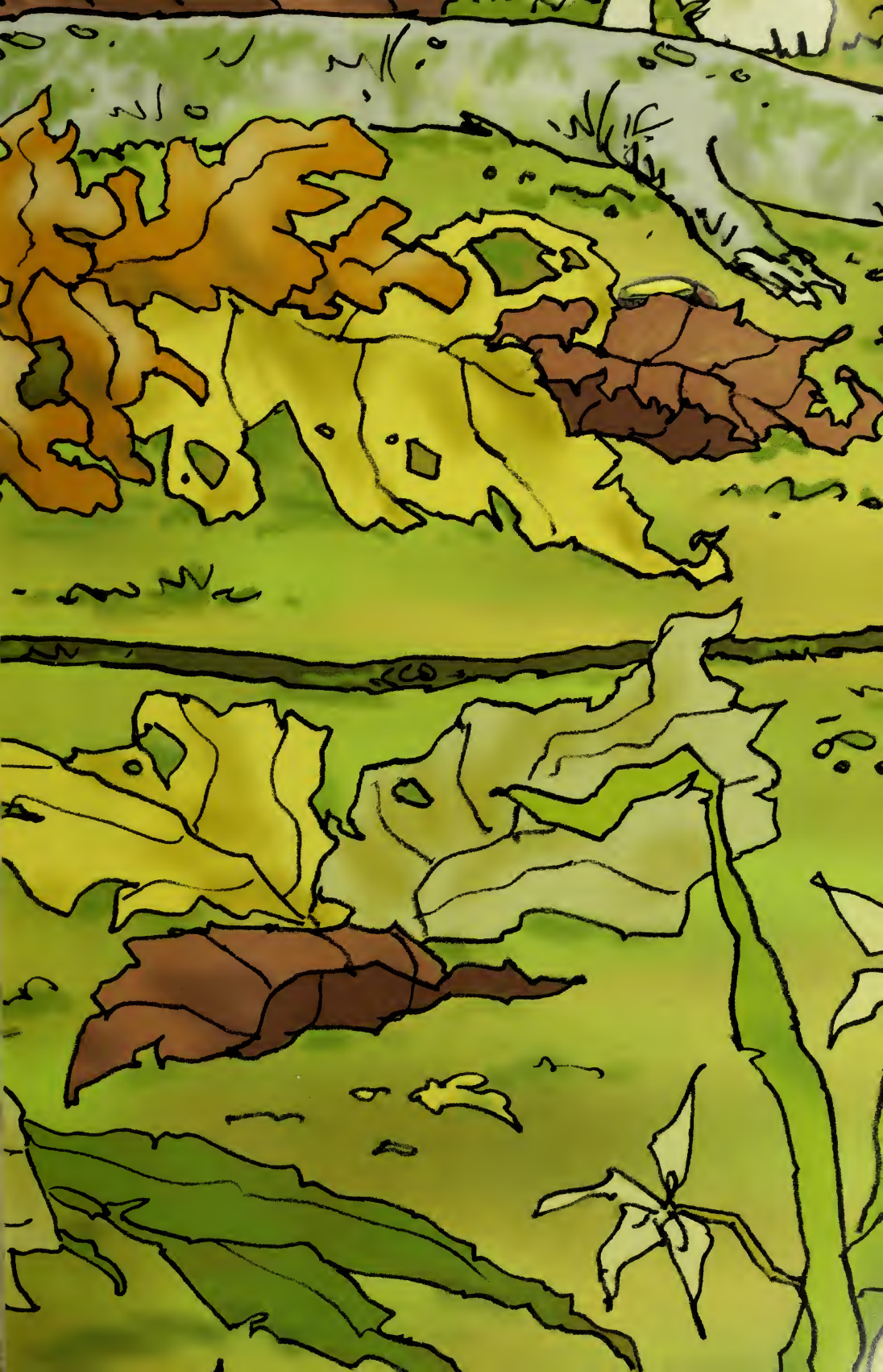
4 Tie the plate to a low tree branch, then smear on the paste. Stand back and watch the butterflies arrive.

Butterflies can sense sweet food with their antennae and with their feet.

The mixture should be slightly runny so butterflies can suck it up.







Games and Puzzles

Find the word

Each number represents a letter from the alphabet. Match them up and fill in the squares to find words from *World of Bugs*.

				1						2								11
				20						19								14
				15						12								17
		4		8						2								19
4		16		7	21	13				11	15	7					1	
2	19	18	18	21						7							18	
8		1		21						2								
14										7								
12	14	18	3	1					11	7	25	1						
7		3		15						7								
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1	2	3	4	5	6	7	8	9
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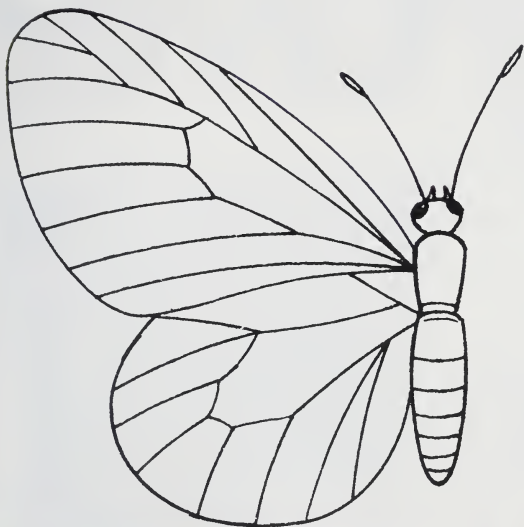


How many golden beetles can you find in *World of Bugs*?



Draw and color in!

Finishing drawing this butterfly, then color it in.



Safe Haven

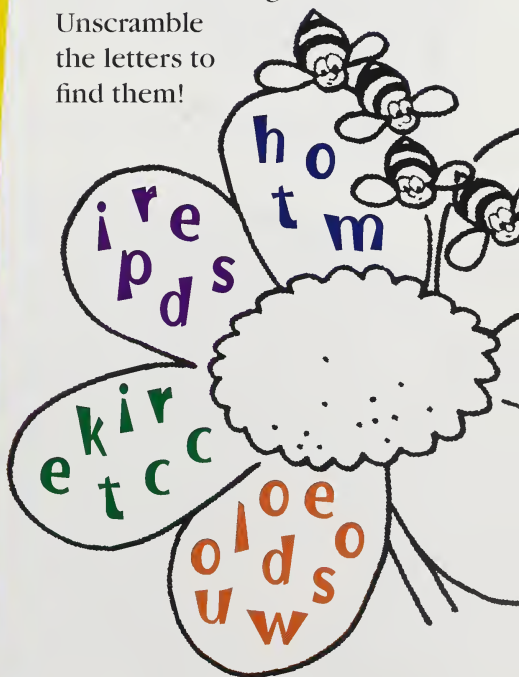
If you want to look at live bugs, make a special observatory. Dig a hole, drop a plastic cup inside it, and put in some food such as a piece of cheese or cookie crumbs. Balance a sheet of wood on four pebbles over the observatory to keep the bugs dry.



Unscramble the letters

The letters in each petal contains the name of a bug.

Unscramble the letters to find them!



Answers on page 16

Where do Bugs Live?



Insects and other creepy crawlies have adapted to every corner of the Earth—even the most inhospitable places. They live in water, in deserts, and in dark, damp caves.

Even the best-kept backyard is home to thousands of bugs. In summer you can see them crawling in the soil and climbing up plants. Woodland is ideal for all sorts of beetles that live in leaf litter. Ponds are great places for spotting water insects such as mayflies and dragonflies. Bugs can also live in deserts where they survive by venturing out at night to avoid the hot sun.

Desert locust

The desert locust is a type of grasshopper. To find fresh food, adult locusts fly in huge swarms of 40 to 60 million. They can destroy a field of crops in minutes.

Look in leaf litter for woodlice. • •



Leaf litter critters

Many bugs love leaf litter—the crumbly compost that forms when leaves rot down. This woodlouse loves leaf litter and anywhere that is dark and damp.





On the trail

Ants are social insects. These black ants have followed a trail left by the leader ants to find a batch of leaf hopper grubs. They work together to take the grubs back to the nest.

- Ants carry the grubs back to the nest.



Dragonfly nymph

A young dragonfly is called a nymph (NIM-f). The nymph lives in a pond for several years before turning into an adult dragonfly.

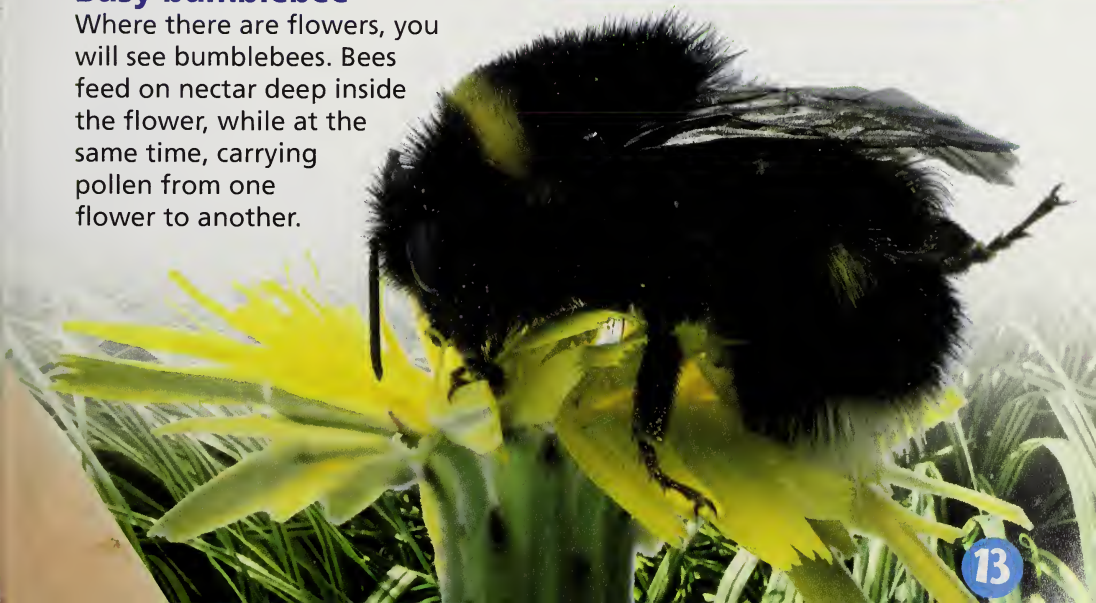
Amazing Facts

Some crickets live in dark caves. They have extra long antennae which they use like sticks to tap-tap their way around in the darkness.



Busy bumblebee

Where there are flowers, you will see bumblebees. Bees feed on nectar deep inside the flower, while at the same time, carrying pollen from one flower to another.



World-Wide Web

Spiders live everywhere on Earth. Some are tiny and some are big and hairy. Here, two different spiders describe their daily lives. First, the orb spider that spins the most perfect web, and then the tarantula—a fierce-looking spider as big as a dinner plate.

The Orb Spider

People say I spin the most beautiful web on Earth. Spinning a new web is hard work for me, but it's fun to watch for you. Next time you destroy one of my webs, think about the work I will have to do to spin a new one.

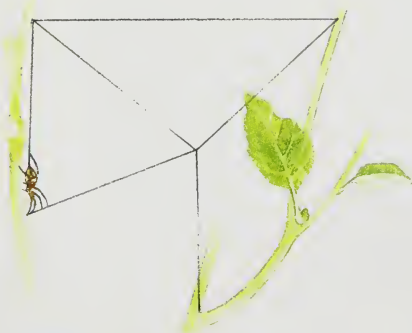
You'll see me at my busiest early on a misty fall morning in a field or a park. I am an orb-web spider and my web is a clever trap. "Orb" means a ring or a circle, which describes the shape of my web. The fine silk threads are coated with sticky goo to snare my insect food. Dewdrops on the web help you to see the structure of its threads.

This is how I make a web:

1. First I fix the first thread between two twigs. I tighten the thread and spin a looser one below. From its middle, I lower myself down.

2. I fix the thread that lowered me to a twig below. Then I run up and down making a kind of frame.

3. Next, I spin threads from the center, out to the edges. These look like the spokes of a wheel.





4. I climb from spoke to spoke, laying a spiral that adds strength. The I lay another spiral coated with gluey drops to make the web sticky.

Then all I have to do is to wait for an unsuspecting insect to land on my web—that's dinner.



The Tarantula

We tarantulas come from a big family. Mostly you'll find us in North and South America, but we have cousins in Africa and Australia, too. We are the world's biggest spiders—my legs could stretch across a dinner plate.

Like other spiders, I spin silk but I don't need a web to catch food. All I have to do is wait for dinner to walk past my hiding place and then I pounce. I catch mostly crickets, beetles, and other insects. I can kill these creatures because I have special fangs that stab. My bite wouldn't kill a human, but it might hurt.

Yes, I am big and hairy. So what? Spiders can't shave.

Besides, the hairs keep us warm and protect us.

And most importantly, they sense vibrations when other creatures are close. Perhaps you think I am horrible but not everyone does. Some humans keep us as pets. Just think of us as gerbils with four extra legs!





Bug Hunt



Observe these simple rules for safe, responsible bug hunting.

- Don't touch any bug with your bare hands unless you know it's harmless.
- Always release a bug when you have finished studying it.
- If you go bug hunting at night, always have an adult with you.

Clean jelly jar and brush

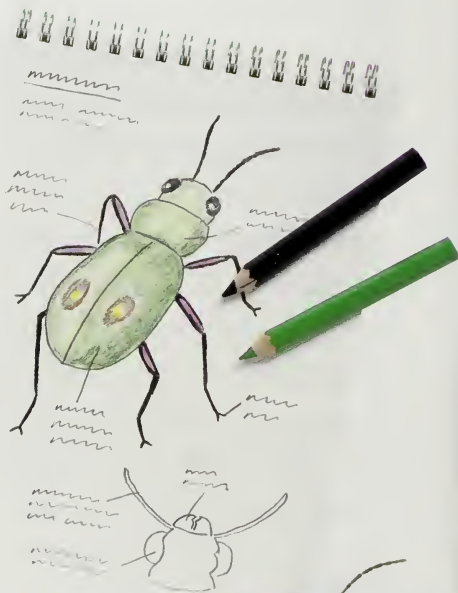
Most bugs are small and move quickly. Carefully use a paint brush to knock the bug into a clean jam jar.

Magnifying glass

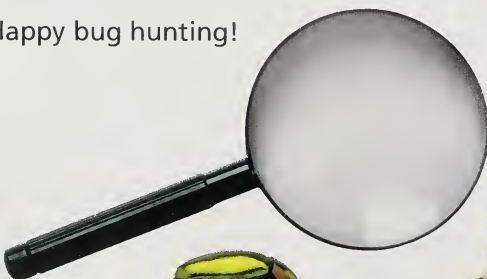
You may need a magnifying glass to help you see the bug clearly. Hold the glass close to the bug, then gradually pull it away until the bug is in focus.

Make records

Keep a notebook to record the bugs you discover. Make a drawing of the bug and any special features you see. Pencils and crayons are best to use for drawing because they won't run if it starts to rain. Make notes of where you found the bug and don't forget to release it when you have finished.



Happy bug hunting!



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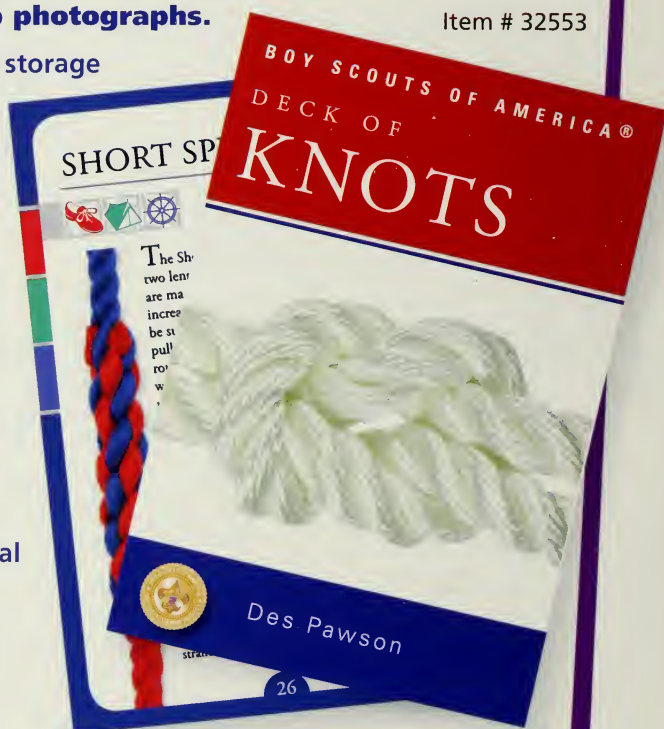
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